

- 1      1.     A cryocatheter system comprising:
  - 2            a first handle portion having a proximal end, a distal end, a first fluid flow path,
  - 3            and a second fluid flow path;
  - 4            a second handle portion having a proximal end, a distal end, a first fluid flow path,
  - 5            and a second fluid flow path, wherein the distal end of the first handle portion is matable
  - 6            with the proximal end of the second handle portion to place the respective first and
  - 7            second fluid flow paths of each handle portion in fluid communication; and
  - 8            a catheter having a proximal end, a distal end, a first fluid flow path, and a second
  - 9            fluid flow path, wherein the distal end of the second handle portion is matable with the
  - 10          proximal end of the catheter to place the respective first and second fluid flow paths of
  - 11          the second handle portion and the catheter in fluid communication.
- 1      2.     The cryocatheter of claim 1, further comprising a pressure sensor in
- 2            communication with one of the first and second fluid flow paths.
- 1      3.     The cryocatheter of claim 1, further comprising a blood detector in communication
- 2            with one of the first and second fluid flow paths.
- 1      4.     The cryocatheter of claim 1, wherein the first fluid flow path is coaxial with
- 2            second fluid flow path.
- 1      5.     The cryocatheter of claim 4, wherein the first fluid flow path is defined by a
- 2            refrigerant supply tube and the second fluid flow path is defined by a fluid exhaust tube.

1       6.    The cryocatheter of claim 5, wherein the refrigerant supply tube is disposed within  
2 the fluid exhaust tube.

1       7.    The cryocatheter of claim 5, wherein the fluid exhaust tube is in fluid  
2 communication with a vacuum source.

1       8.    The cryocatheter of claim 1, further comprising:  
2            a first pull-wire disposed within the catheter, wherein the pull-wire has a proximal  
3 end that is slidably engaged with the second handle portion; and  
4            a second pull-wire having a distal end that is slidably engaged with the first handle  
5 portion,  
6            wherein the proximal end of the first pull-wire is engagable with the distal end of  
7 the second pull-wire.

1       9.    The cryocatheter of claim 8, further comprising a bias element the axially biases  
2 the second pull-wire.

1       10. A cryocatheter system comprising:

2           a first handle portion having a proximal end, a distal end, a first fluid flow path,  
3           and a second fluid flow path;

4           a second handle portion having a proximal end, a distal end, a first fluid flow path,  
5           and a second fluid flow path, wherein the distal end of the first handle portion is matable  
6           with the proximal end of the second handle portion to place the respective first and  
7           second fluid flow paths of each handle portion in fluid communication;

8           a catheter having a proximal end, a distal end, a first fluid flow path, and a second  
9           fluid flow path, wherein the distal end of the second handle portion is matable with the  
10           proximal end of the catheter to place the respective first and second fluid flow paths of  
11           the second handle portion and the catheter in fluid communication;

12           a pressure sensor in communication with one of the first and second fluid flow  
13           paths; and

14           a blood detector in communication with one of the first and second fluid flow  
15           paths,

16           wherein the first fluid flow path is defined by a refrigerant supply tube and the  
17           second fluid flow path is defined by a fluid exhaust tube,

18           wherein the refrigerant supply tube is disposed within the fluid exhaust tube, and  
19           wherein the fluid exhaust tube is in fluid communication with a vacuum source.

1 11. The cryocatheter of claim 10, further comprising:  
2 a first pull-wire disposed within the catheter, wherein the pull-wire has a proximal  
3 end that is slidably engaged with the second handle portion; and  
4 a second pull-wire having a distal end that is slidably engaged with the first handle  
5 portion,  
6 wherein the proximal end of the first pull-wire is engagable with the distal end of  
7 the second pull-wire.

1 12. The cryocatheter of claim 11, further comprising a bias element the axially biases  
2 the second pull-wire.